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CLAIMS

1. A synthesiser comprising:
a memory, containing a plurality of stored samples;
5 means for calculating an output sample for each of a plurality of active voices using a plurality of samples selected from the stored samples for each of the active voices, the number of samples selected being defined as an interpolation degree;
wherein the interpolation degree depends upon the number of active voices.
- 10 2. A synthesiser as claimed in claim 1, wherein the interpolation degree decreases as the number of active voices increases.
3. A synthesiser as claimed in claim 1, wherein the interpolation degree decreases non-linearly as the number of active voices increases.
- 15 4. A synthesiser as claimed in one of claims 1 to 3 wherein the plurality of samples stored in the memory comprise samples of musical notes.
5. A synthesiser as claimed in claim 4 wherein the plurality of samples stored in the
20 memory comprise samples of musical notes produced by different musical instruments.
6. A synthesiser as claimed in any preceding claim wherein the means for calculating an output sample is adapted to multiply each selected sample with a respective filter coefficient obtained from a filter table.
- 25 7. A synthesiser as claimed in claim 6 wherein the filter table contains coefficients of a truncated sinc function.
8. A synthesiser as claimed in any preceding claim, wherein the synthesiser is a MIDI
30 music synthesiser.
9. A portable device, comprising a synthesiser as claimed in any preceding claim.
10. A portable device as claimed in claim 9 wherein the portable device is a mobile
35 phone.

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11. A portable device as claimed in claim 9 wherein the portable device is a pager.

12. A method of operating a synthesiser having a plurality of samples stored in a memory, the method comprising the steps of:

- 5 determining the number of voices that will be active in producing a sound;
- determining an interpolation degree on the basis of the number of voices that will
- be active, wherein the interpolation degree is defined as the number of samples to be
- selected from the plurality of samples stored in the memory; and
- calculating an output sample for each active voice, using the number of said
- 10 stored samples determined by the interpolation degree.

13. A method as claimed in claim 12, wherein the interpolation degree decreases as the number of active voices increases.

- 15 14. A method as claimed in claim 12, wherein the interpolation degree decreases non-linearly as the number of active voices increases.